INDIAN HEART JOURNAL 65 (2013) 493–495

Available online at www.sciencedirect.com

SciVerse ScienceDirect

journal homepage: www.elsevier.com/locate/ihj

Images in Cardiology

Giant right atrium in a foetus

Ashok N. Bhupali[b], *Kiran B. Patankar*[c], *Farheen S. Paranjpe*[d], *Ajitey Uttam Tamhane*[a,*]

[a] *Apple Hospital and Research Institute Diagnostic Center, Kolhapur, Maharashtra, India*
[b] *Consultant Cardiologist, Apple Hospital and Research Institute Diagnostic Center, Kolhapur, Maharashtra, India*
[c] *Director (Radiology), Apple Hospital and Research Institute Diagnostic Center, Kolhapur, Maharashtra, India*
[d] *Consultant Radiologist, Apple Hospital and Research Institute Diagnostic Center, Kolhapur, Maharashtra, India*

ARTICLE INFO

Article history:
Received 18 January 2013
Accepted 20 June 2013
Available online 12 July 2013

Keywords:
Giant right atrium
Congenital heart disease
Fetal echocardiography

ABSTRACT

Giant right atrium is a rarely reported condition, especially in intrauterine life. It may be mistaken with pericardial effusion and Ebstein's anomaly, which are more common causes of right atrial enlargement.

We present a case of prenatal diagnosis of giant right atrium detected at 29 weeks of gestation by fetal echocardiography.

1. Introduction

The right atrial (RA) enlargement is a cardiac malformation of unknown etiology, rarely found in medical literature, especially at fetal echocardiography. Due to its rare occurrence, it can be easily mistaken with other conditions that lead to RA enlargement, such as Ebstein's anomaly of tricuspid valve[1,2] or pericardial effusion. Besides, due to its silent intrauterine course, the diagnosis is usually delayed until adulthood.[3,4] We present a case of prenatal diagnosis of giant right atrium detected at 29 weeks of gestational age by fetal echocardiography.

2. Case report

A 26-year-old third gravida, with 29 weeks of pregnancy was referred to our institute for fetal echocardiography. She had no significant family history. Fetal echocardiogram revealed aneurysmally dilated atrial chamber. The first impression was of single atrium or Ebstein's anomaly or pericardial effusion. Further careful assessment of the heart revealed, a normal positioned tricuspid valve (not demonstrating Ebstein's typical valvular caudal implantation), with mild tricuspid regurgitation. The dilated RA extended cranially to the superior vena cava and ascending aorta and, caudally, to the apex of heart, bordering the right ventricle. A small compressed left atrium was noted. Pulmonary outflow tract was seen but was smaller in size (Figs 1–3) Thus a diagnosis of giant RA with mild tricuspid regurgitation was concluded based on echocardiographic findings.

3. Discussion

Giant RA have been reported at childhood,[5] adult age[3,4] and, very rarely in intrauterine life.[6,7] Giant RA is a rare

* *Corresponding author*. Tel.: +91 (0) 9823265255, +91 231 2651207 (Work).
E-mail address: drtamhanes@hotmail.com (A.U. Tamhane).

0019-4832/$ – see front matter
http://dx.doi.org/10.1016/j.ihj.2013.06.022

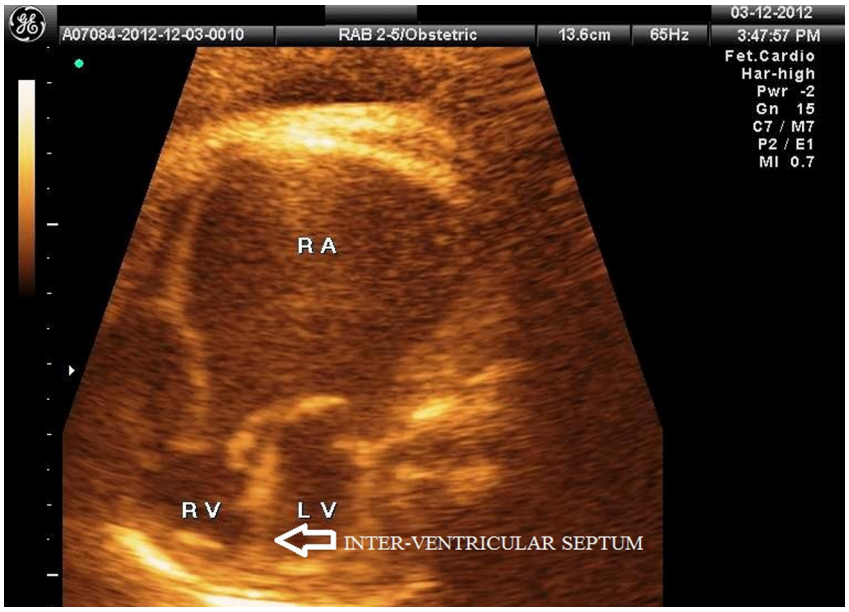

Fig. 1 – Dilated right atrium.

condition of unknown etiology; whether it is congenital or acquired is controversial. In-utero[8] and familial[9] cases have been reported. Bailey[10] first reported the condition in 1955.

In asymptomatic individuals, this cardiac anomaly usually becomes apparent as cardiomegaly on a routine chest radiograph. Various conditions can mimic this pathology on a chest radiograph like, Ebstein's anomaly, pericardial effusion, pericardial cysts, and tumors.[11] Accurate diagnosis is necessary for proper medical and surgical management. Here lies the importance of recognizing the wide anatomic spectrum of Ebstein's anomaly[12] and differentiating it from other causes of RA enlargement. Massive dilatation of the RA is usually associated with tricuspid annular dilatation and tricuspid regurgitation. In our patient, there was mild tricuspid regurgitation. Patients with arrhythmias have been treated successfully with excision of the RA,[13] but the arrhythmias may recur after surgical/cryoablation.[11] Some patients are managed surgically and others nonsurgically. To avoid further complications like thrombo embolism and arrhythmias, a right reduction atrioplasty and repair of any other associated anomalies is recommended. Fetal echocardiography plays an important role in diagnosis of severe and rare congenital cardiopathies. So if we come across an enlarged atrium during routine obstetric scan, it must be subjected to a detail fetal echocardiography.

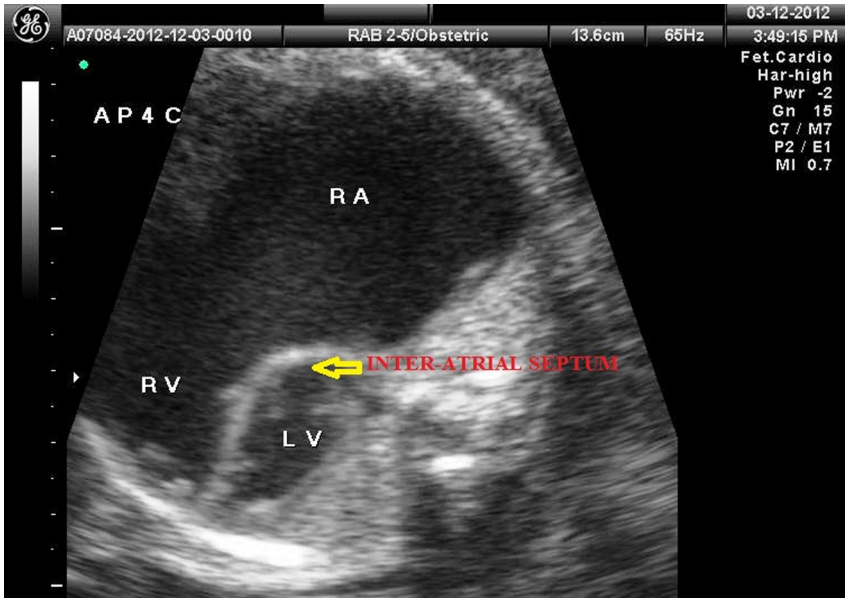

Fig. 2 – Dilated right atrium in 4 chamber view.

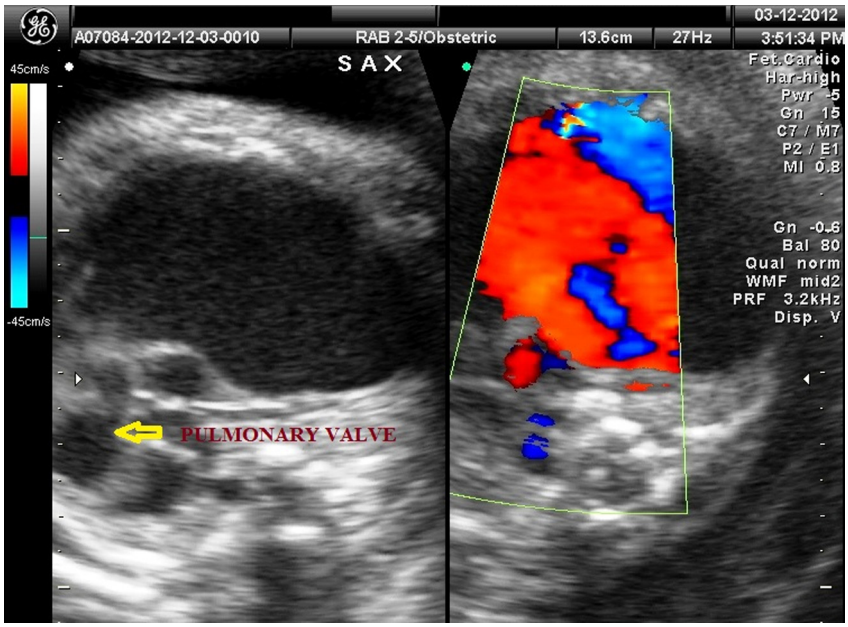

Fig. 3 – Short axis view.

Conflicts of interest

All authors have none to declare.

REFERENCES

1. Silva AM, Witsemburg M, Elzenza N, Stewart P. Idiopathic dilatation of the right atrium diagnosed in utero. *Rev Port Cardiol*. 1992;11:161–163.
2. Reinhardt-Owlya L, Sekarski N, Hurni M, Laurini R, Payot M. Idiopathic dilatation of the right atrium simulating Ebstein's anomaly. Apropos of a case diagnosed in utero. *Arch Mal Coeur Vaiss*. 1998;91:645–649.
3. Zeebregts CJ, Hensens AG, Lacquet LK. Asymptomatic right atrial aneurysm: fortuitous finding and resection. *Eur J Cardiothorac Surg*. 1997;11:591–593.
4. Barberato SH, Barberato MF, Avila BM, Perretto S, Blume Ld Ldo R, Chamma Neto M. Aneurysm of the right atrial appendage. *Arq Bras Cardiol*. 2002;78:236–241.
5. Chatrath R, Turek O, Quivers ES, Driscoll DJ, Edwards WD, Danielson GK. Asymptomatic giant right atrial aneurysm. *Tex Heart Inst J*. 2001;28:301–303.
6. Gross B, Petrikovsky B, Challenger M. Prenatal diagnosis of an aneurysm of the right atrium. *Prenat Diagn*. 1996;16:1043–1045.
7. Haut Cilly FB, Schleich JM, Lacour-Gayet F, Almange C. Right atrial compressive aneurysm with favorable outcome after surgery at the age of 1 month. *Arch Mal Coeur Vaiss*. 2002;95:487–490.
8. Pastor BH, Forte AL. Idiopathic enlargement of the right atrium. *Am J Cardiol*. 1961;8:513–518.
9. Morrow AG, Behrendt DM. Congenital aneurysm (diverticulum) of the right atriuim. Clinical manifestations and results of operative treatment. *Circulation*. 1968;38:124–128.
10. Sheldon we, Johnson CD, Favaloro RG. Idiopathic enlargement of the right atrium. Report of four cases. *Am J Cardiol*. 1969;23:278–284.
11. Rutledge J, Robertson MA, Kantoch M, Dyck 1. Idiopathic dilation of the right atrium: case report and survey of the literature. *Can J Cardiol*. 1997;13:855–857.
12. Scalia GM, Stafford WJ, Burstow DJ, Carruthers T, Tesar PJ. Successful treatment of incessant atrial flutter with excision of congenital giant right atrial aneurysm diagnosed by transesophagealechocardiography. *Am Heart J*. 1995;129:834–838.
13. Beder SD, Nihill MR, McNamara DG. Idiopathic dilation of the right atrium in a child. *Am Heart J*. 1982;103:134–137.